

SULUTKO, L.I. (Kazan, SSSR)

On the problem of surgical therapy of scolioses. Acta chir. orthop.
traum. cech. 29 no.4:375-379 Ag '62.
(SCOLIOSIS)

SULYAGIN, I. D.

Bee Culture

"Winter" honey flow for bees. Pchelovodstvo 29, No. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED.

MIKHAYLOV, D.V.; VINNIK, L.M.; SLUCHAYEV, F.N.; SULYAGIN, V.I.;
BARYKOVA, G.I., red.izd-va; GORDEYEVA, L.P., tekhn.red.

[Norms for the wear, strength and consumption of metal-cutting tools] Normy iznosa, stoikosti i raskhoda rezhushchego instrumenta. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroitel'nykh mashin, 1961. 174 p.

(MIRA 15:2)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye nauchno-issledovatel'skikh i projektnykh organizatsiy. Nauchno-issledovatel'skoye byuro tekhnicheskikh normativov. 2. Nauchno-issledovatel'skoye byuro tekhnicheskikh normativov (for Mikhaylov, Vinnik, Sluchayev, Sulyagin).
(Metal-cutting tools--Standards)

GULYAN, B.

The 1921 ENG Servotest signal generator. p.50.
RADIOTECHNIKA. (Magyar Onkentes Honvedelmi Szovetseg) Budapest.
Vol 6, no. 3, Mar 1956.

SOURCE: EEAL, Vol 5, no. 7, July 1956.

Sulyan, B.

High-stability source of voltage for verifying valve voltmeters. p.240

MERES ES AUTOMATIKA. (Merstechnikal es Automatizalasis Tudomanyos Egyesulet)
Budapest, Hungary. Vol.7, no.8/9, 1959

Monthly List of East European Accessions (EEAI) LC, Vol.8, no.11
November 1959
Uncl.

S/194/62/000/003/064/066
D271/D301

AUTHOR: Sulyán, Béla

TITLE: High frequency voltage stabilizer

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika,
no. 3, 1962, abstract 3-7-202yu (Hungarian patent
specification, cl. 21c, 67, no. 146986, 31.5.1960)

TEXT: The stabilizer which is patented can produce a stable d.c.
or a.c. voltage when the load is constant, or a stable a.c. vol-
tage when the load is varying. It contains an oscillator, usual
rectifying circuit and a rectifier for the a.c. supply of the an-
ode. The voltage obtained from it supplies a HF oscillator which,
after rectification, produces the control voltage. Mains variations
from 250 to 150 V caused a change of 0.1% in the HF output voltage,
when the described stabilizer was used. [Abstracter's note: Com-
plete translation.]

Card 1/1

SIL'YANOV, A., podpolkovnik

Clouds are looking into the cockpit. Av.1 kosm. 46 no.9:48-51
S '63. (MIRA 16:10)

СЛУЖБЕНИ, НЕПРЕКИДЉИВО, ВРХОВНИ ИСТЕНИК ПОЛИЦИЈЕ

"Work on new launch." Ar. 1 kosm. 47 no. 7: 1-10 14 '66.

(MIRA 18:6)

REDNICH, Ye., gvardii podpolkovnik, voyennyy letchik pervogo klassa;
SUL'YANOV, A., gvardii podpolkovnik, voyennyy letchik pervogo klassa

Commands are flying through the air. Av. i kosm. 48 no.11:50-53
N 65. (MIRA 18:10)

SECRET, I. V.

SECRET, I. V. -- 'On the Study of the Laws of Growth of Tobacco
Leaf.' * (Dissertation for Degree in Science and Engineering Defense at
Moscow Higher Educational Institute of Higher Education USSR, Makh'kov
State University, M. V. Gorky, Makh'kov, 1955)

For: Scientific Literature, No. 25, 15 Jun 55
in

* For Degree of Candidate/ Biological Sciences

L 9650-66 EWT(1)/EMP(a)/ENT(m)/SEC(k)-2/T/EMA(1) IJP(c) AD MI
 ACC NR: AP5025375 SOURCE CODE: UR/0181/65/007/010/2978/2989 72
 AUTHOR: Bir, G. L.; Bogomolov, V. N.; Krivitskiy, Ye. V.; Sulyatitskaya, T. Ye. 81
 ORG: Institute of Semiconductors AN SSSR, Leningrad (Institut poluprovodnikov AN SSSR) 83
 TITLE: Piezoresistance of partially reduced rutile at temperatures of 78-500°K
 SOURCE: Fizika tverdogo tela, v. 7, no. 10, 1965, 2978-2989
 TOPIC TAGS: titanium dioxide, pressure effect, piezoelectric effect, electric conductivity, semiconductor research, semiconductor theory
 ABSTRACT: Piezoresistance tensors of rutile are measured from 78 to 500°K for various concentrations of current carriers. The experimental equipment and procedure and the shape of the specimens are described in detail. A phenomenological description is given for the effect of piezoresistance in rutile. The piezoresistance tensor is described by seven independent constants. Temperature relationships are derived for all components of the piezoresistance tensor. Data on conductance anisotropy and the elastic constants of rutile are used as a basis for calculating the seven coefficients of elastoconductivity in rutile as functions of temperature. The effect of hydrostatic pressure on the electrical conductivity of rutile at room temperature is investigated. Data on hydrostatic stress agree well with measurements of uniaxial de-
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ACC NR: AP5025375

formation. The values and temperature behavior of the coefficients of elastoconductivity show that the minimum of the conduction band in this material is on the k_z axis and also indicate that the band is not degenerate. High volumetric coefficients of piezoresistance and the anomalous behavior of these coefficients with respect to temperature are characteristic features of piezoresistance effects in rutile. The volumetric coefficients of elastoconductivity increase approximately as T^{-1} in the high temperature region, reaching a maximum of very close to 80 at a temperature of very nearly 100°K. These coefficients decrease slowly with a further reduction in temperature. Two models are proposed for explaining these high volumetric coefficients of piezoresistance: the first is based on the assumption that there are two conduction bands and that the donor impurities are completely ionized, while the second assumes an incompletely ionized impurity. Both of these models agree partially with the experimental data available for rutile, but neither of them gives a satisfactory explanation of all phenomena in itself. It is possible that a two-band model combined with incomplete impurity ionization may give a better approximation. The authors take this opportunity to thank V. P. Zhuze for the support he gave to this work and for all his consultation during its completion. As in our previous papers, we used rutile single crystals produced in A. S. Bechuk's laboratory and oriented by T. B. Zhukova and A. I. Zaslavskiy to whom we also extend our gratitude. Orig. art. has: 6 figures, 19 formulas.

SUB CODE: 20/

SUBM DATE: 26Apr65/

ORIG REF: 006/

OTH REF: 014

Card 2/2

SULYATITSKIY, V.Ye.; KOVERGA, V.P.

Multiple machining on automatic lathes. Mashinostroitel' no.6:8
Je '64. (MIRA 17:8)

SULYAYEV, Georgiy Matveyevich; TARASOV, Gennadiy Ivanovich; TURICHIN, A.M., red. [deceased]; FREGER, D.P., red. izd-va; BELOGUROVA, I.A., tekhn. red.

[MMZP-35 magnetic oscillograph; lecture transcript] Magnitnyi ostsillograf MMZP-35; stonogramma lektsii. Leningrad, Leningrad. Dom nauchno-tekhn. propagandy, 1961. 34 p. (MIRA 14:12)
(Oscillography) (Magnetic recorders and recording)

OKHMYAN, G.L.; SULYAYEV, L.P.

Spectrophotometric investigation of the action of activated carbon on alcohols. Izv. vys. ucheb. zav.; pishch. tekhn. no.6:141-143 '63. (MIRA 17:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut ferment-
noy i spirtovoy promyshlennosti, khimiko-tekhnologicheskaya
laboratoriya.

OSHEVYAN, G.L.; SULYAYEV, L.P.

Changes in the organoleptic characteristics and oxidability
according to Lang occurring in the water-alcohol mixtures
in the treatment with activated carbon. *Ferm. i spirt.prom.*
30 no.4:8-10 '64. (MIRA 18:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut fermentnoy
i spirtovoy promyshlennosti.

Category : USSR/Nuclear Physics - Elementary Particles

C-3

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 391

Author : Kozodayev, M., Sulyayev, P., Filippov, A., Shcherbakov, Yu.

Inst : Inst. of Nuclear Problems, USSR Acad, of Sciences

Title : Study of the Scattering of Negative π -Mesons in Hydrogen with the Aid of a Diffusion Chamber.

Orig Pub : Dokl. AN SSSR, 1956, 107, No 2, 236-239

Abstract : Elastic scattering of 330 ± 6 Mev π^- -mesons was studied. Eleven cases of elastic scattering by protons and 13 cases of charge exchange were obtained. The corresponding cross sections are 11 ± 4 and 13 ± 4 millibarns, and the total section is 24 ± 5 millibarns. The ratio $\sigma_{ch.e.}/\sigma_{elast.} = 1.2 \pm 0.5$, while at lower energies it equals 2. The change in the value of the ratio $\sigma_{ch.e.}/\sigma_{elast.}$ indicates that for 330-Mev π^- -mesons one no longer sees a predominant interaction in the state with isotopic spin $3/2$; the interaction in the state with $T = 1/2$ becomes just as important.

Card : 1/1

STARCHIKOV, A.V., inzh.; SUIYAYEV, P.Ye., inzh.

Putting an end to accidents in the Livenski Quarry. Bezop.
truda v prom. 4 no.3:29-30 '60. (MIRA 13:6)
(Quarries and quarrying--Safety measures)

SULYAYEV, R. M.

SULYAYEV, R. M.: "A study of the interaction of negative pi-mesons at 330 million electron volts' energy with hydrogen and helium, using the diffusion chamber." Min Higher Education USSR. Moscow Engineering Physics Inst. Moscow, 1956. (Dissertation for the Degree of Candidate in Physicomathematical Science)

Source: Knizhnaya letopis'

No 40

1956

Moscow

SULYAYEV, R. M.

17M

19
Study of the scattering of negative α mesons in hydrogen
by means of vacuum chamber. M. S. Kuznetsov, M.

Subj.: A. I. Kuznetsov and M. S. Kuznetsov. Soviet
Phys. "Doklady" 1, 171-172, 1960 (English translation).—See,
C.A. 51, 838c. B. M. R.

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SULYATEV, RIM

17 2) 19
 Reaction between negative pions with helium nuclei at
 an energy of 110 m.e.v. M. G. Kozlov, A. M. Kulikov,
 A. I. Puzikov, and Yu. A. Shcherbakov. *Zhur. Eksp. i*
Teor. Fiz. 31, 701-3 (1956). The results are given for the
 study of the reaction between π mesons and α -particles.
 The total cross section was detd. as $(150 \pm 15) \times 10^{-28}$ sq.
 cm. The cross sections for the various processes which can
 take place are evaluated. J. Roytar Leach

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KOZODAYEV, M.; SULTAYEV, R.; FILIPPOV, A.; SHCHERBAKOV, Yu.

Scattering of negative pions (π^- -mesons) in hydrogen studied by means
of the diffusion chamber. Dokl.AN SSSR 107 no.2:236-239 Nr 136.
(MIRA 9:7)

1. Institut yadernykh problem Akademii nauk SSSR. Predstavleno akade-
nikom L.A.Artsimovichem.

(Mesons--Scattering)

СЛЕДЫЕВ, Р.Н.

¹⁹
ELASTIC SCATTERING OF π^+ AND π^- MESONS ON He
NUCLEI AT 300 MEV. M. A. Kuznetsov, R. N. Slednev,
A. I. Filippov, and Yu. A. Gicherbakov. Joint Institute of
Nuclear Research, Laboratory of Nuclear Problems.
1957 7p. (In Russian)

Investigations were made of the elastic scattering of π^+
and π^- mesons in the He nuclei at 300 Mev to determine the
angular distribution and to check the previous conclusions
about the effects of Coulomb interference. (R.V.I.)

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120-6-7/36

AUTHORS: Vasilenko, A.T., Kozodayev, M.S., Sulyayev, R.M.,
Filippov, A.I. and Shcherbakov, Yu.A.

TITLE: Reprojector for Evaluating Stereographic Exposures
(Reproyektor dlya obrabotki stereofotografii)

PERIODICAL: Priory i Tekhnika Eksperimenta, 1957, No.6,
pp. 34 - 37 (USSR)

ABSTRACT: Due to the development of methods of recording nuclear processes by means of diffusion and bubble chambers, it is possible to obtain within a relatively short time hundreds of thousands of photographs depicting the traces of charged particles. As a result of this, the people concerned with the experiments are faced with the problem of using effective methods of evaluation of the obtained material. Usually, it is necessary to determine the co-ordinates of some points, the curvatures of the traces and the spatial angle between some such traces. In this paper, an instrument is described for measuring the spatial co-ordinates, the angles and curvatures of the trajectories of charged particles by reproducing the traces of the particles photographed on two stereoscopic exposures by the method of reprojection on to a mobile screen, using the same optical system which was used for taking photographs. This permits observation on the instrument screens

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Reprojector for Evaluating Stereographic Exposures. 120-6-7/36

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653910017-8

of the traces of particles in the method of reprojection, taking into account optical distortions. A sketch of the reprojector is shown in Fig.1 and photographs of it are reproduced in Figs. 2 and 3. This reprojector is more universal than various instruments described earlier in Western literature. Data are given on the errors of measuring the co-ordinates and angles by means of this instrument; the maximum error in measuring the z co-ordinate did not exceed 0.4% and, for an angle of 60°, the error in measuring the angle does not exceed 1°. Acknowledgments are made to V.P. Tokarskiy, K.A. Baycher and A.G. Potekhin for their advice and for setting the instrument and to G.A. Vinogradova for helping to determine the metering errors. .

There are 3 figures and 7 references, 2 of which are Slavic.

ASSOCIATION: United Institute for Nuclear Studies
(Ob'yedinennyi Institut yadernykh issledovaniy)

SUBMITTED: May 20, 1957.

AVAILABLE: Library of Congress

Card 2/2

AUTHORS:

Kozodayev, M.S., Sulyayev, R.M., Filippov, A.I., Shcherbakov, Yu.A.

56-4-35/54

TITLE:

The Elastic Scattering of π^{\pm} -Mesons on Helium Nuclei at an Energy of 300 MeV (Uprugoye rasseyaniye π^{\pm} - mezonov na yad-rakh geliya pri energii 300 MeV)(Letter to the Editor)

PERIODICAL:

Zhurnal Eksperim. i Teoret. Fiziki, 1957, Vol. 33, Nr 4, pp. 1047 - 1049 (USSR)

ABSTRACT:

The elastic scattering was investigated by means of a diffusion chamber (filled with helium of 15 atmospheres absolute pressure). 24000 photographs were taken and investigated for π^{-} -mesons with 300 ± 6 MeV and 11000 photographs for π^{+} -mesons with 273 ± 7 MeV. The absolute scattering cross section for the π^{-} -mesons was measured with 45 ± 5 mb and that for π^{+} -mesons with 72 ± 11 mb. From the measured angular distribution it may be concluded that on the occasion of the scattering with-in small angles an interference effect is present between the coulombian scattering and the nuclear scattering. In a supplement the authors define their attitude regarding the recently again discussed problem that the π -mesons have a spin differ-

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56-4-35/54

The Elastic Scattering of π^+ - Mesons on Helium Nuclei at an Energy of 300 MeV

ent from zero. More experimental material is gathered, in order to bring about a solution of this problem. There are 3 figures and 3 Slavic references.

ASSOCIATION: United Nuclear Research Institute
(Ob"yedinennyy institut yadernykh issledovaniy)

SUBMITTED: June 21, 1957 (initially) and July 25, 1957 (after revision)

AVAILABLE: Library of Congress

Card 2/2

SOV/120-58-6-8/32

AUTHORS: Kozodayev, M.S., Kulyukin, M. M., Sulyayev, R. M., Filippov, A. I. and Shcherbakov, Yu. A.

TITLE: A High Pressure Diffusion Chamber in a Pulsed Magnetic Field
(Diffuzionnaya kamera vysokogo davleniya v impul'snom magnitnom pole)

PERIODICAL: Pribery i tekhnika eksperimenta, 1958, Nr 6, pp 47-55
(USSR)

ABSTRACT: At the present time diffusion chambers are widely used in studies with accelerators. They have turned out to be sufficiently efficient for studying the interaction of nucleons and mesons with separate nucleons and light nuclei (Refs. 1 and 2). An installation is described in the present paper which includes a diffusion chamber in a magnetic field which has been used in studying the interaction of protons and mesons with light nuclei. In distinction to other chambers, e.g. those described in Refs. 4-6, the necessary temperature distribution in the sensitive layer is set up by means of an internal plexiglass cylinder, as described by Kozodayev et al (Refs. 7 and 8). By this means it is possible to reduce the magnitude of horizontal gradients which are the main source of undesirable convections in the chamber. Such a reduction in convective distortion of tracks leads to an increase in the

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SOV/120-58-6-8/32

A High Pressure Diffusion Chamber in a Pulsed Magnetic Field

accuracy in the measurement of momenta. Because of the strong equalising action of the plexiglass cylinder it was found possible to reduce the distance between the side boundaries of the sensitive layer and the outer walls of the chamber and thus improve the utilisation of the working volume of the magnet. Such a construction of the windows means that it is possible to remove the chamber from the magnet without dismantling the latter. It also means that it is possible to use selenoid magnets with small gaps between the coils which in turn makes it easier to obtain large magnetic fields with good homogeneity and economy of supplies. The installation described in this paper consists of a selenoid magnet MS-4, a system for evacuating and filling the chamber and a control panel which controls the accelerator, the chamber and the magnet. The external view of the installation is shown in Fig.1. The chamber was built in 1955 (Ref.3). The diameter of the working region of the chamber is 30 cm, the external diameter being 45.6 cm. The chamber was designed

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A High Pressure Diffusion Chamber in a Pulsed Magnetic Field

for work with light gases such as hydrogen, deuterium and helium at pressures up to 25 atm. The magnetic field in the sensitive region, which is produced by the selenoid magnet, MS-4, reaches up to 11 200 oersted, in continuous operation and 16 000 oersted in pulsed operation. The MS-4 magnet is illustrated in Fig.2, in which 1 is the photographic camera, 2 is the chamber, 3 are illuminators and 4 is the coil of the selenoid. There are 2 coils which consist of sectionalised windings of copper tubes. The gap between the coils in the magnet may be varied between 50 and 100 mm. The windings are cooled by distilled water under pressure of 5 atm. A sectional drawing of the diffusion chamber itself is given in Fig.4. The body of the chamber, 1, is of stainless steel, and is made from a single piece. Tubes are attached to the lower part of the body at 2, in which acetone is circulating and thus cools the body. A reservoir, 4, is included and collects condensed methyl alcohol, which is the working liquid. At the bottom of the chamber there is a copper disc, 5, which is used to equalise the temperature. The surface of the disc is electrolytically blackened. A plexiglass cylinder 7 is set up on this disc and, as was mentioned above, this cylinder produces the necessary

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A High Pressure Diffusion Chamber in a Pulsed Magnetic Field

temperature gradient. Experiments have shown that glass containing potassium salts gives a strong electron background. Estimates carried out for various kinds of glasses have shown that the main source of the background tracks is K^{40} . The magnetic field strongly localises the tracks of background electrons in the central part of the chamber. However, near the walls there is a non-sensitive zone 2-3 cm wide. The authors thank the following persons for help in the design and the construction of the installation: V.M.Soroko, K.A.Baycher, I.A.Shtyrin and P.T.Pavlov. Acknowledgments are also made to A.G.Potekhin and G.P.Zorin. There are 9 figures and 12 references, of which 7 are English and the rest are Soviet.

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy.
(Joint Institute for Nuclear Studies)

SUBMITTED: December 9, 1957.

Card 4/4

VOLOSHCHUK, V.I.; KUZNETSOV, V.V.; SULYAYEV, R.M.; FILIPPOV, A.I.;
SHCHERBAKOV, Yu.A.

Measurement of particle ionization by the relative photometry
of track photographs. Prib. i tekhn. eksp. no.3:34-36 My-Je '60.
(MIRA 14:10)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Photography, Particle track)
(Ionization)

VASILENKO, A.T.; KULYUKIN, M.M.; SULYAYEV, R.M.; FILIPPOV, A.I.;
SHCHERBAKOV, Yu.A.

Semiautomatic comparator for processing stereoscopic photographs.
Prib.i tekhn.eksp. no.4:56-63 J1-Ag '60. (MIRA 13:9)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Electronic measurements)
(Photography, Particle track)

KOZODAYEV, M.S.; KLYUKIN, M.M.; Sulyayev, R.M.; FILIPPOV, A.I.; SHCHERBAKOV, Yu.A.

Inelastic interaction of K^{\pm} -mesons with helium nuclei at an energy
of about 300 Mev. Zhur.eksp.i teor.fiz. 38 no.2:409-422 F '60.
(MIRA 14:5)

1. Ob'yedinennyy institut yadernykh issledovaniy.
(Mesons) (Helium)

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S/056/60/038/03/07/033
B006/B014

24.6600

AUTHORS:

Kozodayev, M. S., Kulyukin, M. M., Sulyayev, R. M.,
Filippov, A. I., Shcherbakov, Yu. A.

TITLE:

Interaction of Protons With He^4 Nuclei at an Energy of 630 Mev
19

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 38, No. 3, pp. 708-715

TEXT: In the present paper the authors report on their investigations of the scattering of 630-Mev protons on helium nuclei. These investigations were conducted with a high-pressure diffusion cloud chamber. This method made it possible to investigate elastic and inelastic scattering in one and the same experiment. Fig. 1 provides a scheme of the experimental setup. The experimental area was 30 cm in diameter, and the height of the sensitive layer was 5 - 7 cm. The chamber was filled with helium up to 15 - 20 atm. The proton energy was a little lower than the maximum energy supplied by the synchrocyclotron, and amounted to (630 ± 15) Mev. A picture was taken every 15 - 20 sec, and a total of 20,000 stereophotographs was thus obtained. Interaction events were isolated by interpreting the pictures three times with a stereomagnifier;

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Interaction of Protons With He^4 Nuclei at an
Energy of 630 Mev

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a total of 444 scatterings of protons on helium nuclei was found. For the most part, interactions were found in two- and three-pronged stars, while only 3 and 4 interactions were found in four- and five-pronged stars, respectively.

The total cross section was found to be $(150 \pm 13) \cdot 10^{-27} \text{ cm}^2$. Table 1 contains the reactions that may take place in the scattering of 630-Mev protons on helium nuclei. They are compiled in four groups and are discussed individually. Fig. 2 shows a picture of a pion pair production. Fig. 3 depicts the angular distribution of elastically scattered protons; $d\sigma/d\Omega$ decreases rapidly with increasing angle. The smallest angle used was 5° in the center-of-gravity system. The elastic cross section was found to be $(22.0 \pm 4.5) \cdot 10^{-27} \text{ cm}^2$

without correcting for small angles, and $(24.0 \pm 5.0) \cdot 10^{-27} \text{ cm}^2$ with a correction. The cross section in the range of from 315 to 630 Mev hardly depended on energy. The angular distribution of elastically scattered protons was also computed within the optical model in Born approximation without considering the spin-orbit- and Coulomb interactions, both for 630 and 315 Mev; the distribution curves obtained are likewise drawn in the diagram (Fig. 3). Inelastic collisions are divided into two groups and separately

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Interaction of Protons With He⁴ Nuclei at an
Energy of 630 Mev

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B006/B014

discussed on this basis: multiple collisions in the helium nucleus and quasi-free scattering.

$N_{pn}^{nucl} = N_{pn} + N_{pn}^k = N_2^1 + N_4 + N_5 + N_{pn}^k$ is written down (N_{pn}^{nucl} being the total number of collisions of the impinging proton with the neutrons of the nucleus, N_{pn} the number of quasi-free interactions, N_2^1 the number of the two-pronged stars (without elastic scattering), N_4 and N_5 the number of four and five-pronged stars, N_{pn}^k the number of cases of a multiple interaction. The reactions of the various stars are discussed. The contribution of multiple interaction processes is written down as being $\varepsilon = 0.22 \pm 0.07$. Cross sections are compiled in Table 2 and details are discussed for the possible reactions in the case of quasi-free scattering. A section of $(15 \pm 2) \cdot 10^{-27} \text{ cm}^2$ was found for the quasi-elastic p-p scattering, and $(24 \pm 2) \cdot 10^{-27} \text{ cm}^2$ per nucleon for the quasi-free p-n interaction. The total inelastic scattering cross section is found to be $(126 \pm 14) \cdot 10^{-27} \text{ cm}^2$, the cross section for events involving π^- -meson production in p-n collisions was found to be $(1.3 \pm 0.5) \cdot 10^{-27} \text{ cm}^2$ per neutron. Fig. 4 shows the angular distribution of the quasi-elastic p-p

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Interaction of Protons With He⁴ Nuclei at an
Energy of 630 Mev

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scattering. The authors finally thank A. G. Potekhina, V. F. Poyenko, and
Ye. A. Shvanev for their assistance. There are 4 figures, 2 tables, and
17 references, 7 of which are Soviet,

ASSOCIATION: Ob"yedinenny institut yadernykh issledovaniy (Joint Institute
of Nuclear Research)

SUBMITTED: September 10, 1959 X

Card 4/4

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B004/B070

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AUTHORS:

Kozodayev, M. S., Kulyukin, M. M., Sulyayev, R. M.,
Filippov, A. I., Shcherbakov, Yu. A.

TITLE:

Angular and Momentum Distributions of Residual Nuclei in
Inelastic Scattering of Fast π -Mesons and Protons From
Helium 79

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 39, No. 4(10), pp. 929-936

TEXT: The authors studied the angular and momentum distributions of the residual nuclei in quasifree interaction of fast pions and protons with helium nuclei. A high pressure diffusion chamber was employed and was irradiated by particle beams of the synchrocyclotron of their institute. The energy of the protons was (630 ± 15) Mev, that of the π^+ -meson (237 ± 7) Mev, and that of the π^- -meson (330 ± 6) Mev. 20,000 photographs were taken of proton and π^- -meson beams, and 10,000 of the beams of π^+ -mesons. The details of the experiment, evaluation of the plates, and the

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84387

Angular and Momentum Distributions of
Residual Nuclei in Inelastic Scattering of
Fast π -Mesons and Protons From Helium

S/056/60/039/004/005/048
B004/B070

identification of events are described already in Refs. 8 and 9. Fig. 1 shows a typical quasielastic proton - proton scattering event. The observed reactions and their cross sections are given in Table 1. Fig. 2 shows the angular distribution of the residual nuclei in quasifree p - p scattering; Fig. 3 shows the angular distribution for the interaction of π^+ - and π^- -mesons. The residual nuclei were predominantly emitted forward. The anisotropy of the angular distribution is characterized by $\alpha = N_1/N_2$ (N_1 = number of nuclei emitted in the forward direction, N_2 = number of nuclei emitted backward). The values obtained are: $\alpha_p = 2.17 \pm 0.15$, $\alpha_\pi = 1.26 \pm 0.13$. The momentum distributions of the residual nuclei are shown in Fig. 4 (protons) and Fig. 5 (pions). The observed results are interpreted by the authors on the basis of the Serber - Goldberger model. When the additional momentum $\Delta \vec{p}$ imparted to the residual nucleus by the knocked-out nucleon is taken into account, a good agreement between the experimental and the calculated data is obtained (Fig. 6). The angular distribution for the reaction (1):

Card 2/3

FILIPPOV, A.I.; KULYUKIN, M.M.; PONTECORVO, B.; SECHERBAKOV, Yu.A.;
SULYAYEV, R.M.; TSUPKO-SPTNIKOV, V.M.; ZAYMIDOROGA, O.A.

Observation of the reaction $\mu^- + \text{He}^3 \rightarrow \text{H}^3 + \nu$. Dubna, Izdatel'skii
otdel Ob"edinennogo in-ta yadernykh issledovani, 1961. 9 p.
(No subject heading)

31775

S/056/61/041/006/021/054
B102/B138

24.6600

AUTHORS: Zaymidoroga, O. A., Kulyukin, M. M., Pontekorvo, B.,
Sulyayev, R. M., Filippov, A. I., Tsupko-Sitnikov, V. M.,
Shcherbakov, Yu. A.

TITLE: Observation of the reaction $\mu^- + \text{He}^3 \rightarrow \text{H}^3 + \nu$

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 41,
no. 6(12), 1961, 1804-1808

TEXT: The probability of slow μ^- -meson capture by He^3 is known from highly accurate theoretical calculations. From probability measurements of the reaction $\mu^- + \text{He}^3 \rightarrow \text{H}^3 + \nu$ the muon-nucleon interaction constant can be determined and the results compared with those of the weak interaction theory. From the tritium energy in this process the upper limit of the neutral particle mass emitted in muon capture can be estimated and the probability of the process $\mu^- + p \rightarrow n + \nu$, not yet observed with certainty, can be determined. The first results of investigation of muon capture by He^3 are dealt with. A diffusion chamber filled with pure (99.999%) He^3 at Card 1/4

Observation of the reaction ...

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S/056/61/041/ 06/021/054
B102/B138

20 atm, was placed in a field of 6000 oe and exposed to a muon beam (momentum 217 Mev/c) from the synchrocyclotron of the OIYaI. The methyl alcohol pressure in the sensitive layer of the chamber was less than 50 mm Hg, the tritium content of the gas used was 10^{-15} . A copper filter was put in the chamber to slow down the mesons and eliminate the pions. The chamber was carefully shielded from thermal neutrons. To date, about 6000 photographs have been taken of events where the muon path stopped at a He^3 nucleus. The reactions sought were identified by the energy of the tritium nucleus. From the pion admixture 1200 stars were observed. The admixture was determined to $\sim 2\%$, causing $\pi^- + \text{He}^3 \rightarrow \text{H}^3 + \pi^-$ reactions. 14 events of the $\mu^- + \text{He}^3 \rightarrow \text{H}^3 + \nu$ reaction were identified, the mean tritium range was $2.37 \pm 0.02 \text{ mg/cm}^2$. The upper limit of the neutral particle emitted in muon capture was estimated: With 99% probability its mass is less than 6 Mev. The charged particle masses were. $m_{\text{He}^3} = 2808.22 \text{ Mev}$, $m_{\text{H}^3} = 1808.75 \text{ Mev}$, $m_{\mu} = 105.65 \text{ Mev}$. The probability of reaction (1) was $(1.30 \pm 0.40) \cdot 10^3 \text{ sec}^{-1}$. The value calculated by Wolfenstein on the basis of the theory of universal

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S/056/61/041/006/021/054
B102/B138

Observation of the reaction ...

weak interaction was $(1.54 \pm 0.08) \cdot 10^3 \text{ sec}^{-1}$. The constant of vectorial μN interaction was estimated roughly: With a probability of 90%,

$\left| \frac{g_V}{g_A} \right| < 2 \left| \frac{g_V}{g_A} \right|$. The authors thank P. L. Kapitza, V. P. Peshkov, V. M. Kuznetsov and A. I. Filimonov for the purification of the He^3 from H^3 carried out in the IPF AN SSSR, S. S. Gershteyn for discussions, V. P. Dzhelepov, L. I. Lapidus for interest and G. M. Aleksandrov, V. V. Kuznetsov, N. V. Lebedev, V. I. Orekhov, V. F. Poyenko, A. G. Potekhin, D. B. Pontekorvo and I. V. Falomkin for experimental help. There are 2 figures and 12 references: 4 Soviet and 8 non-Soviet. The four most recent references to English-language publications read as follows: S. Weinberg. Phys. Rev. Lett. 4, 575, 1960; J. C. Fetkovich et al. Phys. Rev. 118, 319, 1960; E. J. Maier et al. Phys. Rev. Lett. 6, 417, 1961; L. Wolfenstein. Proc. of the 1960 Ann. Int. Conf. on High Energy Phys. of Rochester, Univ. of Rochester, 1960, p. 529; Bull. Amer. Phys. Soc., 6, 33, 1961. ✓

Card 3/4

Observation of the reaction ...

31775
S/056/61/041/006/021/054
B102/B138

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: July 25, 1961

Card 4/4

FALGOUTH, I.V., FILIPPOV, A.I., KILYUKIN, M.M., KONTSEVO, B.M., PETERCANY, Yu.A.,
SULYAYEV, R.H., TSUFKO-SITNIKOVA, V.M., ZAITSEVA, O.A.

"Muon-Nucleon Interaction Constants and Muon Capture in EE^{17} "

report presented at the Intl. Conference on High Energy Physics, Geneva,
L-11 July 1962

Joint Institute for Nuclear Research
Laboratory of Nuclear Problems

24.10.62. 177.
FILIPPOV, A.I., KULIKIN, M.M., POZDNYOV, D.M., SHCHERBAKOV, Yu.A., SULYANOV, R.M.,
ZACHAROVA, O.G.

"Observation of the Reaction $\bar{p} + He^3 \rightarrow H^2 + \nu$ "

report presented at the Intl. Conference on High Energy Physics, Geneva,
4-11 July 1962

Joint Institute for Nuclear Research
Laboratory of Nuclear Problems

SILYATEV, A.M.

PAVLOV, I. V., PELIYEV, A. I., KULYUKIN, M. M., YA. A. SOKOLNIKOV, SUSHKIN, R. N.,
TUMTO-SITNIKOV, V.M., and ZABUDKOVA, O. A.

" π^+ -Meson Capture in He^3 "

report presented at Intl. Conference on High Energy Physics, Geneva,
4-11 July 1962

Joint Institute for Nuclear Research
Lab. of Nuclear Problems

FALOMKIN, I.V.; FILIPPOV, A.I.; KULYUKIN, M.M.; PONTICORVO, B.;
SHCHERBAKOV, Yu.A.; SILEYAYEV, R.M.; TSUPKO-SITNIKOV, V.M.;
ZAYMIDOROGA, O.A.; SMIRNOVA, L.A.[translator]; SARANTSEVA,
V.R., tekhn. red.

Measurement of the $\mu^- + \text{He}^3 \rightarrow \text{H}^3 + \nu$ reaction rate. Dubna,
Ob"edinennyi in-t iadernykh issledovaniy, 1962. 7 p.
(No subject heading)

39680
S/056/62/043/001/055/056
B102/B104

246700

AUTHORS:

Zaymidoroga, O. A., Kulyukin, M. M., Pontekorvo, B.,
Sulyayev, R. M., Falomkin, I. V., Filippov, A. I.,
Tsupko-Sitnikov, V. M., Shcherbakov, Yu. A.

TITLE:

Measurement of the probability of the $\mu^- + \text{He}^3 \rightarrow \text{H}^3 + \nu$ reaction

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,
no. 1(7), 1962, 355-358

TEXT: The $\mu^- + \text{He}^3 \rightarrow \text{H}^3 + \nu$ -reaction probability was measured in order to study the symmetry of the muon and electron interactions with nucleons. The method used is that described in ZhETF, 41, 1805, 1961. A diffusion chamber filled with He^3 gas (20 atm) in a field of 6 koe was exposed to a muon beam (217 Mev/c) from the synchrocyclotron of the Laboratoriya yadernykh problem OIYAI (Laboratory of Nuclear Problems of the OIYAI), a copper filter being used to moderate the muons. Some 10^5 photographs were taken. The total number of captures and μ -e decay events was determined from the spectrum of the visible secondary tracks of tritium stars and also from the spectrum of the ranges of the stopped secondary

Card 1/3

Measurement of the probability of the ...

S/056/62/043/001/055/056
B102/B104

particles. The two spectra agree, each having two peaks: a higher peak at ranges of 2.0 - 2.6 mg/cm² corresponding to the reaction $\mu^- + \text{He}^3 \rightarrow \text{H}^3 + \nu$, and a smaller one at 5.3-5.9 mg/cm² corresponding to $\pi^- + \text{He}^3 \rightarrow \text{He}^3 + \gamma$. The probability of the muon capture was found to be

$(\Lambda_{\text{He}^3})_{\text{exp}} = (1.36 \pm 0.18) \cdot 10^3 \text{ sec}^{-1}$, as against which Wolfenstein (Bull. Am.

Phys. Soc. 6, 33, 1961) had calculated $(\Lambda_{\text{He}^3})_{\text{theor.}} = 1.54 \cdot 10^3 \text{ sec}^{-1}$ using

the theory of universal vectorial interaction. The result speaks in favor of this theory, and the muon - electron symmetry in nucleon interactions on which the universal theory is based agrees with the experiment (13% accuracy). An estimate of the Fermi and Gamow-Teller

constants (G_F and G_G) of this reaction results in $G_F < -0.1$,

$G_F = -(0.5^{+0.4}_{-0.7}) G_G$ which is in agreement with the theory of universal V-A interaction. There are 2 figures.

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Measurement of the probability of the ... S/056/62/043/001/055/056
B102/B104

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy
(Joint Institute of Nuclear Research)

SUBMITTED: May 30, 1962

Card 3/3

S/056/63/044/001/067/067
B102/B186

AUTHORS: Zaymidoroga, O. A., Kulyukin, M. M., Pontekorvo, B.,
Sulyayev, R. M., Falomkin, I. V., Filippov, A. I.,
Tsupko-Sitnikov, V. M., Shcherbakov, Yu. A.

TITLE: Measurement of the $\mu^- + \text{He}^3 \rightarrow \text{H}^3 + \nu$ reaction probability.
Final results

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44,
no. 1, 1963, 389 - 390

TEXT: The $\mu^- + \text{He}^3$ reaction probability was determined from about 200 events observed in a He^3 diffusion chamber. Experimental method, and the scanning and evaluation procedures used were the same as those described in ZhETF, 43, 355, 1962. The final experimental result is

$\Lambda_{\text{He}^3} = (1.41 \pm 0.14) \cdot 10^3 \text{ sec}^{-1}$. It agrees with the previously published one which was calculated from the data of 90 events. There is 1 table.

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)
Card 1/2

Measurement of the...

SUBMITTED: November 16, 1962

S/056/63/044/001/067/067
B102/B186

✓

Card 2/2

SULYAYEV, R.M.

S/056/63/044/004/011/044
B102/B186

AUTHORS: Zaymidoroga, O. A., Kulyukin, N. M., Sulyayev, R. M.,
Falomkin, I. V., Filippov, A. I., Tsupko-Sitnikov, V. M.,
Shcherbakov, Yu. A.

TITLE: The Panofsky ratio for He^3 and the root-mean-square radius
for the $\text{He}^3 \rightarrow \text{H}^3$ transition

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44,
no. 4, 1963, 1180 - 1183

TEXT: The capture of π^- by He^3 was theoretically investigated, and was
effected in the following processes which are allowed from the standpoint
of conservation laws:

- I. $\pi^- + \text{He}^3 \rightarrow p + n + n$ (55,5%)
- II. $\pi^- + \text{He}^3 \rightarrow n + d$ (27,8%)
- III. $\pi^- + \text{He}^3 \rightarrow \text{H}^3 + \pi^0$ (9,4%)
- IV. $\pi^- + \text{He}^3 \rightarrow \text{H}^3 + \gamma$ (4,8%)
- V. $\pi^- + \text{He}^3 \rightarrow d + n + \gamma$ (2,0%)
- VI. $\pi^- + \text{He}^3 \rightarrow p + n + n + \gamma$ (0,5%)

Card 1/3

The Panofsky ratio for...

S/056/63/044/004/011/044
B102/B186

Now the capture of π^- mesons stopped in He^3 could be observed for the first time in the reactions III and IV. B. V. Struminskiy has shown (Preprint OIYaI, E-1012, Dubna, 1962), that the probability ratio (Panofsky ratio P) of these reactions is related with the r.m.s. radius r of the $\text{He}^3\text{-H}^3$ transition in radiative processes by

$$P = \frac{P_H}{1 - \frac{1}{2}k^2r^2 + \frac{1}{10}k^4r^4} \frac{\omega + M}{\omega_H + m} \frac{\omega_H}{\omega} \left[\frac{E}{E_H} \frac{M}{m} \frac{(\mu + m)}{(\mu + M)} \right]^{1/2}, \quad (1);$$

k is the wave number of the photon in IV, ω the photon energy in IV, m the neutron mass, μ the π^0 mass, M the tritium mass, E the energy released in III; the quantities with the subscript H refer to $\pi^- + p$ processes. The experiments were made with a He^3 -filled diffusion chamber (20 atm) placed in a magnetic field of 6 koe. Among the 2372 photographs of pion stops in He^3 the processes III and IV were singled out according to the ranges of the particles involved. The relative probabilities of III and IV were $W_3 = (13.5 \pm 0.9)\%$ and $W_4 = (6.2 \pm 0.7)\%$. The Panofsky ratio was obtained as: $P = 2.16 \pm 0.28$, and from this r could be calculated: $r = (1.24^{+0.30}_{-0.46}) \cdot 10^{-13} \text{ cm}$, which is in close agreement with the value calculated by C. Werntz (Nucl. Card 2/3

The Panofsky ratio for...

S/056/63/044/004/011/044
B102/B186

Phys. 16, 59, 1960). The yields of III and IV were found to be somewhat higher than those predicted by Messiah (Phys. Rev. 87, 639, 1952). There are 2 figures.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: November 16, 1962

Card 3/3

ZAYMIDROGA, O.A.; KULYUKIN, M.M.; PONTEKORVO, B.; SULYAYEV, R.M.;
FALOMKIN, I.V.; FILIPPOV, A.I.; TSUPKO-SITNIKOV, V.M.;
SHCHERBAKOV, Yu.A.

Measurement of the total probability of muon capture in He^3 .
Zhur. eksp. i teor. fiz. 45 no.6:1803-1807 D '63. (MIRA 17:2)

1. Ob'yedinennyy institut yadernykh issledovaniy.

L 14307-63

EMP(q)/EMI(m)/BDS AFFTC/ASD JD/JG

ACCESSION NR: AP3003110

S/0056/63/044/006/1852/1858 ⁴⁴₅₈

AUTHOR: Zaymidoroga, O. A.; Kulyukin, M. M.; Sulyayev, R. M.; Filippov, A. I.;
Tsupko-Sitnikov, V. M.; Shcherbakov, Yu. A.

TITLE: Formation of helium mesic atoms in a hydrogen-helium gas mixture

SOURCE: Zhurnal eksper. i teor. fiziki, v. 44, no. 6, 1963, 1852-1858

TOPIC TAGS: helium mesic atom formation, helium, hydrogen, direct attachment, muon transfer

ABSTRACT: The formation of helium mesic atoms in a mixture of helium and hydrogen was studied in a diffusion cloud chamber at 19 atmospheres pressure. The experiment was performed to clarify the roles of the two possible mechanisms of helium mesic atom formation in a H-He mixture, direct attachment or via muon transfer, and as a check on an experimental procedure which permits the use of relatively small amounts of helium. The diffusion chamber was exposed to a beam of negative mesons with initial momentum 170 MeV/c from the synchrocyclotron of OIYaI. Both He sup 3 and He sup 4 were used, with nuclear concentrations 14.3 and 4.9 %, respectively. The probability of the capture of muons by helium from a hydrogen mesic atom in the ground state was found to be at least three orders of magnitude smaller than the probability of capture by carbon or oxygen nuclei,

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ACCESSION NR: AP3003110

and cannot appreciably exceed 1 million per second, in agreement with theoretical estimates made by S. S. Gershteyn (ZhETF v. 43, 706, 1962). Agreement with the Fermi-Teller "Z-law" was indicated for direct attachment of mesons to nuclei in the gas mixture. "The authors are deeply indebted to S. S. Gershteyn, P. F. Yermolov, and B. Pontecorvo for numerous valuable discussions, and to A. I. Tokarskaya and Ye. A. Shvaneva for assistance with the measurements." Orig. art. has: 2 figures, 10 formulas, and 4 tables.

ASSOCIATION: Ob'yedinenny'y institut yaderny*kh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: 23Jan63

DATE ACQ: 23Jul63

ENCL: 00

SUB CODE: 00

NO REF SOV: 003

OTHER: 009

Cord 2/2

ACCESSION NR: AP4018367

S/0120/64/000/001/0069/0075

AUTHOR: Aleksandrov, G. M.; Zaymidoroga, O. A.; Kulyukin, M. M.;
Peshkov, V. P.; Sulyayev, R. M.; Filippov, A. I.; Tsupko-Sitnikov, V. M.;
Shcherbakov, Yu. A.

TITLE: Use of helium-3 for filling a high-pressure diffusion chamber

SOURCE: Pribury* i tekhnika eksperimenta, no. 1, 1964, 69-75

TOPIC TAGS: diffusion chamber, helium-3 tritium separation, high pressure
diffusion chamber, synchrocyclotron, OIYaI synchrocyclotron, high purity helium-3

ABSTRACT: A method of highly purifying helium-3 from tritium ($H^3/He^3 < 10^{-10}$) is described. Helium-3 condensation with subsequent evaporation at 1.2 K was used. The cycle was repeated 4 times; a small amount of H_2 (about 0.005%) was added prior to every liquefaction. The source gas contained 0.1% of H^3 and 0.5-1% of H_2 , D, N, O, and A. The final elimination of H_2 was attained by burning it with copper oxide heated to 500C. The internal parts of the DK-2 standard diffusion chamber (see M. S. Kozodayev, et al., PTE, 1958, no. 6, p. 47) were remodeled; its volume, about 11 lit., was filled with helium-3 up to 20 atm; equipment and

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ACCESSION NR: AP4018367

filling details are given. The chamber was in continuous (500 hrs) operation with the OIYaI synchrocyclotron. It can be filled within 5 hrs. Gas loss at each exposure has been 0.1% or less. "The authors are deeply grateful to P. L. Kapitsa for his permission to separate He³ from T in IFP AN SSSR, and to V. M. Kuznetsov and A. I. Filimonov for lending the equipment and their help in determining T concentrations. We are also thankful to V. P. Dzhelepov and L. I. Lapidus for their interest in the project, and to K. A. Baycher and S. F. Maly*sheva for their help in building the outfit. Mounting was performed by A. G. Zhukov, P. Ye. Laykov, N. V. Lebedev, V. I. Orekhov, V. F. Poyenko, A. G. Potekhin, and A. I. Chernetskiy, for which we thank them. We would particularly like to acknowledge the discussions as well as the active help of B. Pontecorvo throughout the project stages." Orig. art. has: 4 figures.

ASSOCIATION: Ob"yedinenny*y institut yaderny*kh issledovaniy (Joint Institute of Nuclear Studies)

SUBMITTED: 23Feb63

DATE ACQ: 18Mar64

ENCL: 00

SUB CODE: NS

NO REF SOV: 006

OTHER: 005

Card 2/2

L 58117-65 ZAT(m)/T/ZA(m)-2
ACCESSION NR: APS013885

33
23
6

UR/0056/65/048/005/1267/1278

AUTHOR: Daymidovskiy, G. A.; Kulyukin, M. M.; Sulyayev, R. M.; Palomkin, I. V.;
A. I. ...; ... V. M. Shestakov, Yu. A.

TITLE: Study of α -particle capture by He^2 . 1. Charge exchange and radiative capture.

JOURNAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 5, 1965,

... charge exchange, radiative capture, Panofsky
... ratio

ABSTRACT: This is a continuation of an earlier paper by the authors (ZhETF v. 44, 1965, 1245). A high-pressure diffusion chamber operating in a magnetic field was used to study the capture of α -particles by He^2 . The capture chamber was described in detail in the preceding paper. The experimental results and the measurements of the Panofsky ratio are presented. The experimental values obtained for the Panofsky ratio are compared with the theoretical values. (Preprint OJAI, ... High Energy Physics at CERN p. 17). is used to

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L 58447-65

ACCESSION NR: AP001385

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determine the nuclear form factor and the mean square nuclear radius corresponding to the distributions of the centers of the nucleons. The value of the Panofsky ratio is 2.33 ± 0.18 , that of the nuclear form factor is $F^2 = 0.75 \pm 0.06$ (for a momentum transfer $q^2 = 0.47 \text{ F}^{-2}$), and the relative probabilities of charge exchange and radiative capture are found to be $W(H^{3,0}) = (15.8 \pm 0.8)\%$ and $W(H^{3,\gamma}) = (6.9 \pm 0.5)\%$. The authors thank B. PONTESQUE and B. Y. Struminskii for a discussion of the results, and A. G. Zhukov, N. V. Lebedev, V. I. Orekhov, V. F. Poyenko, A. I. Potvinin, A. I. Pokarskaya and Ye. A. Shvaneva for assistance with the measurements. Orig. art. has: 5 figures, 10 formulas, and 5 tables.

ASSOCIATION: Ob"edinenyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: 30Dec64

ENCL: 00

SUB CODE: NP

NR REF SOV: 003

OTHER: 004

187
Card 2/2

L 64752-65 ENT(m)/T/ENA(m)-2

ACCESSION NR: AP5016551

UR/0056/65/048/006/1594/1597

AUTHORS: Zaymidorova, O.A.; Struminskiy, B.V.; Sulyayev, R.M.;
Falomkin, I.V.; Tsupko-Sitnikov, V.M.; Shcherbakov, Yu.A.

TITLE: Nuclear form factors in muon capture by He-3

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48,
no. 6, 1965, 1594-1597

TOPIC TAGS: muon, helium, capture cross section

ABSTRACT: The authors obtained improved values of the nuclear matrix element for the reaction $\mu^- + \text{He}^3 \rightarrow \text{H}^3 + \nu$ from the experimental form factors obtained from the capture of pions by He^3 and from the scattering of electrons by He^3 and H^3 . The calculations are based on the expression given by Fujii and Primakoff for the matrix elements (Nuovo Cimento v. 12, 327, 1959). The partial probability for

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L 64752-65

ACCESSION NR: AP5016551

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the capture of muons by He^3 , calculated on the basis of the universal weak interaction theory with the values of the form factors obtained, is found to be $1515 \pm 55 \text{ sec}^{-1}$. This agrees well with the value $1490 \pm 40 \text{ sec}^{-1}$ obtained in earlier experiments by the authors (ZhETF v. 44, 389, 1963). The ratios of the pseudoscalar constants are calculated to be $g_A^\beta/g_V^\beta = -1.160$ and $g_P^\mu/g_A^\mu = 7$. From a comparison of the calculated probability with the experimental results the authors estimate the pseudoscalar constant to be $g_P^\mu = (8 \pm 3)g_A^\mu$. The authors thank S. M. Bilen'kiy, S. S. Gershteyn, and B. Pontecorvo for a discussion of the results. (Fig. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 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L 18035-63

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Ps-4/Pd-4 WW

ACCESSION NR: AP3000724

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69
64

AUTHORS: Zhurir, V. V. (Moscow); Sulyayev, V. A. (Moscow); Bukovskiy, V. M. (Moscow)

TITLE: Shock waves in electromagnetic shock tube

SOURCE: Inzhenernyy zhurnal, v. 3, no. 2, 1963, 373-375

TOPIC TAGS: shock wave, ionization, plasma, magnetic dipole, shock tube, discharge, condenser

ABSTRACT: The technique of obtaining strong shocks at high ionization levels in electromagnetic shock tubes was studied. The discharge was obtained from a bank of capacitors (18 microfarad capacity) discharging at 20-kv. Quartz tubes 1000 mm in length and with internal diameters of 11 and 40 mm acted as shock tubes. The gases used were helium and hydrogen, with an initial pressure between 0.05-5 mm Hg. Oscilloscopes and high-speed movie cameras were used to record data. In the experiment pressures up to 2000 atm. were obtained with shock speeds of 8×10^7 cm/sec. The electron gas temperature behind the shock was estimated at 700 ev. Unlike the observation by F. R. Scott and R. F. Wenzel (Phys. Fluids, vol. 2, No. 6, 1959) no magnetic dipole was observed in the ionized gas. However, as

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previous investigators have observed, electron diffusion could be detected ahead of the shock wave. "The author is grateful to A. A. Nikol'skiy for his interest in this investigation and to N. V. Filippov, S. R. Kholev, and A. I. Lashkov for his valuable discussions on the experimental results." Orig. art. has: 1 illustration.

ASSOCIATION: Institut mekhanik AN SSSR (Institute of Mechanics, AN SSSR)

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Card 2/2

ZHURIN, V.V. (Moskva); SULTYAYEV, V.A. (Moskva)

Investigating the structure of strong shock waves in hydrogen
and helium. Inzh.zhur. 3 no.4:645-657 '63. (MIRA 16:12)

1. Institut mekhaniki AN SSSR.

L 54606-65 ENT(1)/EWP(m)/EWA(d)/EPR/FCS(k)/EWA(h)/EWA(c) Pd-1/P1-4 WW
 ACCESSION NO: APL000402 S/0258/63/003/004/0645/0657

A. THURS: Zhurin, V. V. (Moscow); Sulyayev, V. A. (Moscow)

23
 17

Subject: Structure of strong shock waves in hydrogen and helium

C

Source: Izmereniya zhurnal, v. 3, no. 4, 1963, 645-657

INDEXED: shock wave, shock wave in helium, shock wave in hydrogen, electro-
 magnetic shock tube, plasma dynamics, plasma flow, gas ionization, ion propulsion,
 discharge, plasma jet, fusion, strong shock wave, supersonic flow, shock wave struc-
 ture

ABSTRACT: In an electromagnetic shock tube (using the pinch effect) strong shock
 waves in hydrogen and helium with speeds of 3×10^6 - 2×10^7 cm/sec and initial
 pressures of 5×10^{-2} - 5.0 mm mercury were investigated. The majority of the
 experiments was performed on the apparatus shown in Fig. 1 on the Enclosure. The
 shock moved in a transparent quartz tube (30 mm inside diameter, 3 mm wall, and up
 to 1000 mm long). The capacitance bank was changed from 180-216 mfd for an initial
 voltage of 10 to 15 kv. The chamber was evacuated to 10^{-6} mm mercury and charged
 with hydrogen or helium to the desired working pressure. The radiation from the
 shock was picked up by two ultra-high speed photo registers and two photo-multipli-
 cers 1/5

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ACCESSION NR: AP4004402

ers. The integral spectrum of the wave was photographed on a spectrograph. To measure the electron temperature from the gas conductivity, a magnetic coil arrangement was used to determine the magnetic field change. After the discharge plasma has pinched it travels down the quartz tube, displacing the magnetic field, but (since it has a finite conductivity) the magnetic field diffuses back in. For small magnetic fields the kinetic pressure of the gas is higher than the magnetic field pressure, and the latter does not change. But as the magnetic field is increased the plasma is compressed, thus changing the magnetic field. This was used to measure the plasma pressure after the shock wave. The velocity of the shock in hydrogen was measured as a function of initial pressure for several initial voltages with the following results: at 17-18 kV the maximum occurs at 1 mV/cm. At 17-18 kV the velocity tends to follow the law $U \approx \text{const.} (1/p_0)^{1/2}$. The measured plasma temperature (related to the conductivity by the Spitzer formula) agreed in general with the theoretical temperature versus Mach number. The authors also mention the results of measurements of the radiation from the shock wave. The results of measurements of the radiation from the shock wave required for first and second stage of shock development, for hydrogen were somewhat higher than those predicted from radiation theory. The authors thank A. A. Nikolskiy for guiding the work, N. G. Filipov, G. A. Anolev, and A. I. Lashkov

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for their advice and Yu. P. Orlov for helping with the experiments. Orig. art.
last 11 figures and 19 formulas.

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APPROVED: 1985

EXCISE: 12

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Card 3/8

SUL. ^Y_E, ^Y_E.P.

ET-764. [On the problem of creating perennial forms of wheat] K voprosu o sozdani
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Trudy Zonal'nogo Instituta Zernovogo Khoziaista Mechernozemnoi Polosy SSSR, (2):
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Active Member of the Academy of Medical Sciences USSR) of the
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A.L.Myasnikov) AMN SSSR

(THYROID GLAND, function tests,
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(CARDIOVASCULAR DISEASES, physiology,
thyroid radioiodine test (Rus))
(IODINE, radioactive,
thyroid funct. test in cardiovasc. dis. (Rus))

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(KL, 7-57, 110)

80

SPERANSKIY, I.I., prof.; SUL'YE, Ye.V.; BITKOVA, S.I.

Hereditary familial data on patients with hypertension. Terap.arkh.
31 no.9:7-12 S '59. (MIRA 12:11)

1. Iz Instituta terapii AMN SSSR (dir. - deystvitel'nyy chlen AMN
SSSR prof. A.L. Myasnikov), Moskva. 2. Chlen-korrespondent AMN SSSR
(for Speranskiy).
(HYPERTENSION genetics)

KIEAL'DNICH, G.A.; GRINCHENKO, Yu.A.; SULTGA, V.A.

The IR-1 energy resolution meter. Prib. i tekhn. eksp. 9
no.2:76-78 Mr-Ap'64. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut monokristallov.

Q
USSR / Farm Animals. Cattle

Abs Jour: Ref Zhur-Biol., No 5, 1958, 21460

Author : Sulyma Ya. F.

Inst :

Title : The Growth and Development of Lambs of the Romney Breed, Those of the Coarse-Wool Long-Lean-Tailed Type, and Their Crosses (Rost i razvitiye yagnyat porody romin-marsh, grubosherstnykh dlinno-toshchekhvostykh i ikh pomesey)

Orig Pub: Tr. Mosk. vet. akad., 1957, 19, No 1, 174-187

Abstract: The results of the study of the growth and development of lambs of the aforesaid breeds, from the month of birth up to the age of 1-1/2 years, raised under regular conditions of feeding and management (Ryazan' Oblast), are reported. The minimal live weight at birth was found in lambs of the coarse-wool type

Card 1/2

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USSR / Farm Animals. Cattle

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Abs Jour: Ref Zhur-Biol., No 5, 1958, 21460

Abstract: (3.0-3.2 kg.); the crossbred lambs and the Romneys had almost the same weight (4.0-4.6 and 4.14-4.68 kg.). When the feeding is deficient, as the case may be in the suckling, fall-pasturing, and winter-stabling periods, the highest daily weight increase and rate of growth is shown by the coarse-wool lambs. Under good feeding conditions, during the summer pasturing season, the hybrid lambs considerably surpass the coarse-wool ones in live weight, average weight increase and rate of growth, and are about the same as the Romneys in this respect. By providing necessary conditions of feeding and management, it is possible to accelerate the maturity of the crossbred lambs.

Card 2/2

SULYMAN, G.S

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1712
AUTHOR SULJMAN, G.S.
TITLE Disturbances of Radio Reception caused by Gasotrons of the Rectifier.
PERIODICAL Radiotekhnika, 11, fasc. 11, 60-61 (1956)
Issued: 12 / 1956

During operation of a ship's wireless transmitter on medium waves disturbances caused by transmitters in the neighborhood have often been noticed. Similar conditions were created and the matter was investigated. When the gasotrons were replaced by selenium rectifiers, the disturbances vanished. Endeavors were then made to find methods by means of which the disturbances as such could be eliminated. Eventually, the same means that were employed in the case of disturbances caused by electric machines were applied. As a result the disturbing noise vanished completely within a range of from 550 to 750 kc, after which it remained insignificant at 250 and 1000 kc.

From the entire investigation the following conclusions can be drawn:

- 1.) The highfrequency part of the medium-wave transmitter is in no relation to the production of radio disturbances.
- 2.) The cause of radio disturbances in a receiver which is tuned to medium waves is the gasotron rectifier of the transmitter.

SULYOK, D.; SZASZ, G.

Experiments with bone marrow transplantation. Orv. hetil. 92 no.17:529-531 29 Apr 1951. (CMLL 24:5)

1. Doctors. 2. Internal Department (Head Physician -- Dr. Gyorgy Szasz) and Laboratory (Head Physician -- Dr. Denes Sulyok), Fejer County General Hospital (Director -- Dr. Elek Benedek).

SULYOK, DENES, DR.

SZASZ, Gyorgy, dr.; SULYOK, Denes, dr.; KMERKOVITS, Gyula, dr.

Role of the central nervous system in the regulation of reticulo-
endothelial function. Orv hetil 95 no.21:568-570 My '54.
(REAL 3:8)

1. A Fejermegyei Tanács Kórháza (igazgató: Benedek Elek dr.)
Laboratóriumának (főorvos: Sulyok Denes dr.) és Belgyógyászati
Osztályának (főorvos: Szász György dr.) közleménye

(CENTRAL NERVOUS SYSTEM, physiology

*regulation of RE funct.)

(RETICULOENDOTHELIAL SYSTEM, physiology

*central nerv. regulation)

SZASZ, Gy.; SÜLYÖK, D.

On the effusion of pathological cells from the spleen. Acta
med. hun. 14 no. 4: 363-369 '59.

1. 1. Innere Abteilung und Laboratorium des Krankenhauses in
Szekesfehervar.
(SPLEEN pathol.)

SULYOK, Jozsef, okleveles gépészmérnök

Tropicalization activity of the Research Institute of Electric Industry. Elektrotechnika 57 no.11/12:504-508 M-F '64.

1. Head, Climaticization Division, Research Institute of Electric Industry, Budapest, XIII., Lehel ut 23.

SULYOK, N. SAROLTA

H/021/63/000/001/001/001
D296/D507

AUTHORS: Sulyok, N.S., Czeizel, E., Gyürü, G. and Vaczó, G.,
Doctors

TITLE: Investigation of the protective effect of cystamine

PERIODICAL: Magyar Radiologia,¹⁵ no. 1, 1963, 49-51

TEXT: The authors exposed 20 white mice each weighing 17-23 g, to total body radiation in a dose of 650 r (180 kV, 15 mA, 0.5 mm Cu filter, distance 40 cm, dose rate 67.6 r/min). 10 mice were given 0.15 mg/g 'Lambratene' (a preparation of cystamine or β -mercaptoethylamine, produced by Bracco Industria Chimica S.p.A., Milan) 5 minutes before exposure, and 10 others served as a control. Seven days after exposure only 4 of the control mice and 9 of the mice treated with Lambratene were alive. After 12 days all control mice had perished but 9 mice of the treated group were still alive, demonstrating the protective effect of cystamine. To show whether Lambratene protected the bone marrow function against radiation the authors used Kertai's starch test (Kisérlet. Orvostud, v. 10, 15 (1958)).

Card 1/3

H/021/63/000/001/001/001
D296/D307

Investigation of the ...

injection of 5 ml/kg of a 5% aqueous starch solution causes a marked granulocytosis in normal rabbits, but exposure to 400 r suppresses this bone marrow response. Experiments on 19 rabbits revealed no difference between irradiated rabbits treated and not treated with Lambratene. The bone marrow response after injection of starch was absent in both groups, i.e. Lambratene failed to protect the bone marrow against the damaging effect of radiation. In the third group of experiments the authors carried out partial extirpation of the liver in 79 rats from the same breeding station of the National Institute of Public Health and assessed the regeneration of liver tissue, by the formula of Canzanelli (Canzanelli et al., Endocrinology, v. 91, 45, 1949). In 27 non-irradiated rats the liver regeneration index was 86.4%. In 17 rats exposed to 500 r this index fell to 59.6%. In 9 irradiated rats treated with Lambratene given in a dose of 0.1 mg/g by intraperitoneal injection 5 minutes before exposure, the liver regeneration index reached 79.8%, i.e. the regenerating capacity of the liver was almost fully restored. Treatment of 10 non-irradiated rats with Lambratene caused a slight fall in the regeneration index (to 86.4%), a fact explained by the antimito-

Card 2/3

H/021/63/000/001/001/001
D296/D307

Investigation of the ...

tic effect of that preparation. There are 1 figure and 2 tables.

ASSOCIATION:

Fővárosi Tanács István Kórház Röntgen Osztály és
Országos Közegészségügy Intézet Koréléttani Osztály
(Department of Radiology, St. Stephen's Hospital,
Metropolitan Council of Budapest, and Department of
Physiology, National Institute of Public Health)

Card 3/3

SULYOK, Maria

Insectivorous plants in the Palm House of the Budapest
Zoological Garden. Elovilag 3 no.1:55 Ja-Mr '58.

SULYOK, Sarolta, dr.; ORIOVICS, Jozsef, dr.; ERDOSI, Ferenc, dr.;
CZCZEL, Endre, dr.

Our experiences with the immunological pregnancy test. Orv.
hetil. 104 no.51:2428-2429 22 D '63.

1. Országos Kozegésztégügyi Intézet, Korelettani Osztály és
Orvostovábbképző Intézet, I Szülészet-Nőgyógyászati Tanszék.

(PREGNANCY TESTS)

(HEMAGGLUTINATION INHIBITION TESTS)

(URINE) (GONADOTROPINS, CHORIONIC)

I. 37214-66 1 JK

ACC NR: AF6028493

SOURCE CODE: HU/0018/65/017/006/0615/0624

AUTHOR: Kertai, Pal; Sulyok, Sarolta N.---Shuyok, S. N.; Domotor, Erzsebet--
Demeter, E. 3/

CRG: Department of Physiology and Pathophysiology, National Public Health Institute
(Orszagos Kozegeszsegugyi Intezet, Eletteni es Korelettani Osztaly)

TITLE: Investigation of the influence of Salmonella typhi endotoxin on the
leucocyte count

SOURCE: Kiserletes orvostudomany, v. 17, no. 6, 1965, 615-624

TOPIC TAGS: toxin, drug effect, experiment animal, blood disease, leukopenia,
blood, hematology

ABSTRACT: The changes in the leucocyte count following i.v. injection of endotoxin have been analyzed. It was determined that only an early leukocytosis can be noted following injection of a small dose or, in pyrogen-resistant animals, following injection of a larger dose as well. The leukocytosis can be inhibited by section of the spinal cord. The leukocytosis which develops some time after an intermediary or large dose of endotoxin is preceded by leukopenia. This double reaction does not occur when preparatory endotoxin injections are given previously. Doses of endotoxin which cause fulminating leukopenia and pronounced late leukocytosis in normal controls are completely without effect in pyrogen-resistant animals and in those with a severed spinal cord. The experiments led to the conclusion that the leukocyte reaction following endotoxin injection is the result of two different mechanisms. The authors thank Doctor Ujhelyi Karoly, OKI, for providing the preparations. Klara Stark and Edit Katona gave technical assistance. Orig. art. has: 7 figures. [JPRS: 34,161]

SUB CODE: 06 / SUBM DATE: 08Feb65 / ORIG REF: 008 / OTH REF: 067
Card 1/1 mlp

SULYOK, Zoltan

Service workshop group. Mezogazd techn 3 no.5:9 '63.

PHASE I BOOK EXPLOITATION SOV/3883

Gintsburg, A.K., V.A. Loktin, S.L. Reznikovskiy, B.G. Rozovskiy,
M.A. Sulyutin, and A.A. Trakhov

Remont radiostantsiy (Repair of Radio Stations) Moscow, Voen. Izd-vo
M-va obor. SSSR, 1959. 327 p. No. of copies printed not given.

Ed.: P.S. Kiriyenko; Tech. Ed.: Ye.K. Konovalova.

PURPOSE: This textbook is intended for students of communication
schools of the Soviet Defense Ministry, and may also be used
by Defense Ministry personnel working in army communication repair
shops, and by other radio specialists.

COVERAGE: The book deals with radio repair. Detailed information is
given on materials and components, testing and repair of components,
assembly and disassembly of radio equipment, measurements during
testing and repair of radio stations, various methods of radio
repair, and repair of power supply sources, transmitters, and re-
ceivers. M.A. Sulyutin wrote Ch. I; A.K. Gintsburg wrote Ch. II;

Card 1/11

Repair of Radio Stations

SOV/3883

V.A. Loktin wrote Ch. III; B.G. Rozovskiy wrote Ch. IV; S.L. Reznikovskiy wrote Chs. V, VII, VIII, and Section 3 of Ch. VI; and A.A. Trakhov wrote Ch. VI (excepting for Section 3). No personalities are mentioned. There are no references.

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Card 2/11

FOS, Rudolf, Dr.; SULYVA-SZUCS, Jozsef, Dr.

Choice of incision in panaritium. Orv. hetil. 99 no.36:1256-1263 7 Sept 58.

1. A Budapesti Orvostudományi Egyetem II. sz- Sebészeti Klinikájának
(igazgató: Klimko Dezso dr. egyet. tanár) közleménye.
(PARONYCHIA, surg.
choice of incision (Hun))

SUL'ZHENKO, A.I.

Reactivity of the organism in pemphigus in the course of treatment.
Vest. dermat. i ven. 38 no.10:15-22 O '64.

(MIRA 18:7

1. Kozhnyy otdel (zav. A.P. Bazyka) Ukrainskogo nauchno-issledovatel'-
skogo kozhno-venerologicheskogo instituta (direktor - dotsent A.I.
Pyatikop)

SUL'ZHENKO, G. K.

Dissertation: "The Effect of Various Forms of Phosphorus Fertilizers on the Carbohydrate Metabolism in Plants With Respect to the Harvest." Cand Agr Sci, Kiev Agricultural Inst, Kiev, 1953. (Referativnyy Zhurnal--Khimiya, Moscow, No 11, Jun 54)

SO: SUM 318, 23 Dec 1954

Author : G.P. Gul'zheni
Inst : Not given.
Title : The Effect of Various Forms of Phosphorus Fertilizers on the Carbohydrate Metabolism, Quality and Yield of Sugar Beets. (Vliyeniye raznykh form fosfornykh udobreniy na uglevodnyy obmen, kachestvo i urozhay sakharney svekly).

Orig. Pub: Nauchn. tr. Ukr. s.-kh akad., 1956, 8, 125-130.

Abstract: Field and vegetative research shows that on dark grey forest soil under the effect of super-phosphate rather than phosphate fertilizer a greater accumulation of dry matter and saccharose takes place in sugar beets, the content of ordinary and "harmful" nitrogen and the separate elements from ash is strikingly lowered, and

Card : 1/2

APPROVED FOR RELEASE: 08/26/2000

CIA-RDP86-00513R001653910017-8"

Upson/cultivated Plants. Corns. Oil-bearing. Sugars.
Orig. Pub: Nauchn. tr. Ukr. s.-kh akad., 1956, 8, 125-130.

As a result of this the sugar beet quality and yield are boosted. The various forms of phosphorus fertilizers did not show any significant effect on the beet's content of glucose, fructose and cellulose.

Card : 2/2

SUL'ZHENKO, G.K. [Sul'zhenko, H.K.], kand. sel'skokhoz. nauk

Effectiveness of organic-mineral fertilizers applied to potatoes
in the Ukrainian Polesye. Nauk. pratsi UASHN 17 no.12:69-71 '60.
(MIRA 16:7)

(Polesye--Corn (Maize)--Fertilizers and manures)

AUTHOR: Sul'zhenko, L. (Leningrad) SOV/107-58-10-45/55
TITLE: Balancing the Final Stage (Balansirovka okonechnogo kaskada)
PERIODICAL: Radio, 1958, Nr 10, p 53 (USSR)
ABSTRACT: The author states that the legs of a two-stage low-frequency
amplifier must be symmetrical if it is to work normally, and
expounds his own suggestion for doing this.
There is 1 circuit diagram.